

ABSTRACT

An electroless plating process for forming a barrier film such as a cobalt tungsten boron film on copper interconnects lines of semiconductor wafers uses a plating bath of morpholine borane which provides higher thermal stability and range, allowing for greater compatibility with low k dielectric materials. Mixed chelating agents with different stability constants with a metal source are used to complex base metal such as copper which dissolves into solution, if any. A fluorosurfactant is used as a wetting agent and stabilizer.